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**FRAUDVIS: UNDERSTANDING UNSUPERVISED FRAUD DETECTION ALGORITHMS**

**ABSTRACT:**

Discovering fraud user behaviors is vital to keeping online websites healthy. Fraudsters usually exhibit grouping behaviors, and researchers have effectively leveraged this behavior to design unsupervised algorithms to detect fraud user groups. In this work, we propose a visualization system, FraudVis, to visually analyze the unsupervised fraud detection algorithms from temporal, intra-group correlation, inter-group correlation, feature selection, and the individual user perspectives. FraudVis helps domain experts better understand the algorithm output and the detected fraud behaviors. Meanwhile, FraudVis also helps algorithm experts to fine-tune the algorithm design through the visual comparison. By using the visualization system, we solve two real-world cases of fraud detection, one for a social video website and another for an e-commerce website. The results on both cases demonstrate the effectiveness of FraudVis in understanding unsupervised fraud detection algorithms.